

STOCKPILE REPORT

to the Congress



JANUARY - JUNE 1958

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF CIVIL AND DEFENSE MOBILIZATION
WASHINGTON 25, D.C.**

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OFFICE OF DIRECTOR

November 1958

The Honorable
The President of the Senate

The Honorable
The Speaker of the House of Representatives

Sirs:

There is presented herewith the semiannual report to the Congress on the strategic and critical materials stockpiling program for the period January 1 to June 30, 1958. A classified statistical supplement to this report will be transmitted to you under separate cover.

This report is submitted pursuant to Section 4 of the Strategic and Critical Materials Stock Piling Act, Public Law 520, 79th Congress.

Sincerely,

A handwritten signature in dark ink, appearing to read "Leo A. Hoegh", written in a cursive style.

Leo A. Hoegh

Preface

This report, which discusses developments during the period January 1 through June 30, 1958, refers to the Office of Defense Mobilization as the agency responsible during that period for the stockpile of strategic and critical materials--commonly called the strategic stockpile or the national stockpile--under the Stock Piling Act, Public Law 520, 79th Congress. Since June 30, the functions of the Office of Defense Mobilization have been combined with those of the Federal Civil Defense Administration under a new organization--the Office of Civil and Defense Mobilization.

Previous reports have shown the status of the strategic stockpile program in terms of an assumed five-year emergency period. In this report, interim objectives, and inventories applicable to the objectives, are based on an assumed three-year emergency in accordance with the revised policies discussed herein. Because of this change in concept, the excess of stockpile inventories beyond the objectives for some materials will be larger than that shown in the previous report.

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Summary

This report covers principal activities in stockpile planning and operations for the period January 1 through June 30, 1958.

General stockpile policies were revised after a critical review by a non-Government group as well as by Government agencies.

Basic and maximum objectives, reflecting stockpiling requirements for a 3-year emergency period, have been established on an interim basis for all Group I stockpile materials, superseding the former minimum and long-term objectives that were based on 5-year requirements. These interim objectives will be reviewed as new estimates of emergency requirements become available. The term procurement priority level, i.e., the quantity to be procured on a top priority basis, has been dropped. The basic objective representing the minimum 3-year stockpiling requirements will be acquired expeditiously.

New determinations were made with respect to minimum readiness inventories of the following upgraded materials for use in the initial stages of intensive mobilization: tungsten carbide powder, ferromolybdenum, molybdic oxide and ferrovanadium.

Strategic stockpile inventories as of June 30, 1958, equaled or exceeded basic objectives for 63 materials. For 50 of these 63 materials, the maximum objectives have also been achieved.

On the basis of June 30, 1958, market prices, the total strategic stockpile inventory of Group I materials was valued at \$5.4 billion. Of this amount \$3.6 billion was applicable to the basic and maximum objectives established on June 30, 1958, and \$1.8 billion represented inventories in excess of these levels, that were acquired under previously higher objectives.

A decrease is shown in the value of stockpile objectives, and of inventories applicable to the objectives, principally because of lower quantities to correspond to three-year stockpiling requirements and lower market prices on which the values are based.

During the January-June 1958 period approximately \$6.5 million was committed for open market purchases and \$13.5 million for transfers from Defense Production Act and Commodity Credit Corporation inventories.

Materials valued at almost \$25 million were delivered to the strategic stockpile from all sources during the six months' period, \$14 million of this being from open-market purchases.

Stockpile Policies

Policies for the national stockpile of strategic and critical materials were revised after a critical review by a non-Government group--the Special Stockpile Advisory Committee--and those Government departments and agencies having an interest in emergency materials planning.

REPORT OF THE SPECIAL STOCKPILE ADVISORY COMMITTEE

The report of the Special Stockpile Advisory Committee, entitled "Stockpiling for Defense in a Nuclear Age," was released by the Director of the Office of Defense Mobilization on January 29, 1958. The Committee concluded that the stockpiling of strategic and critical materials is still a major element of any preparedness program. Its recommendations were adopted in part in the following Defense Mobilization Order.

STOCKPILE POLICIES AS APPROVED JUNE 1958

By Defense Mobilization Order V-7, published in the Federal Register of June 14, 1958 (23 FR 4333), the Director of ODM established the following stockpile policies to become effective June 30, 1958:

1. *General Role of the Strategic Stockpile.* The strategic stockpile shall take account of the potentiality of limited war and general war and shall assume rapid mobilization in the event of an emergency.

2. *Period Covered by Stockpiling.* All strategic stockpile objectives shall be limited to meeting estimated shortages of materials for a 3-year emergency period.

3. *Stockpile Objectives.* Strategic stockpile objectives shall be adequate for limited or general war whichever shows the larger supply-requirements deficit to be met by stockpiling. The objectives shall consist of (1) a "basic objective" which assumes reliance on sources of supply factored to reflect estimated supply risks and (2) a "maximum objective" which includes an additional allowance to take into account the complete discounting of sources of supply beyond North America and comparably accessible areas.

4. *Emergency Requirements.* The requirements estimates for both limited and general war shall reflect specific requirements so far as they are applicable and available. Otherwise it shall be assumed that the total requirements would about equal the consumption by industrial capacity, considering necessary wartime limitation, conservation, and substitution measures. Requirements shall be discounted for wartime losses of con-

suming capacity to the extent that such losses can be reliably estimated.

5. *Emergency Supplies.* Estimates of supply for the mobilization period shall be based on readily available capacity and known resources. The share available to the United States shall be discounted to reflect (1) the strategic vulnerability and possible economic and political instability of foreign sources, (2) overseas shipping losses and (3) vulnerability of domestic sources that are heavily concentrated geographically, including vulnerability to sabotage. Domestic supplies shall be discounted in cases of excessive concentration to the extent of the estimated time required to restore capacity that may be damaged.

6. *Provision for Special-Property Materials.* Prospective needs for high-temperature and other special-property materials shall be considered on the basis of a three-year period beginning not more than two years in the future. Estimates of requirements therefor shall be included in the computation of objectives when there are indications of reasonably firm minimum requirements. In this connection arrangements shall be made for the regular availability of objective scientific advice to assist in such evaluation.

7. *Frequency of Supply-Requirements Reviews.* The supply-requirements balance for any material that is now or may become important to defense shall be kept under continuing surveillance and shall be given a full-scale review at any time that a change is believed to be taking place that would have a significant bearing on the wartime readiness position. Supply-requirements balances shall be examined at least once a year to ascertain the need for a full-scale review. The interim recalculation of basic and maximum stockpile objectives now underway shall be completed immediately. Priority of review shall be given to materials under procurement.

8. *Procurement Policy.* The basic objectives shall be attained expeditiously. If necessary, sources of supply shall be expanded. Procurement, however, shall be tapered as the basic objectives are approached. The maximum objective shall be reached on a lower priority basis by such means as (1) deliveries under existing contracts, (2) transfers from other Government programs, (3) purchases with available foreign currencies, (4) barter of U. S. agricultural surpluses, and (5) programs to maintain the mobilization base under paragraph 9. Future long-term contracts should contain termination clauses whenever possible.

9. *Maintenance of the Mobilization Base.* The mobilization base shall relate to the projected sup-

ply capacity including standby capacity that would be readily available for an emergency commencing on any assumed date rather than to the output of a given period. Stockpile procurement to maintain this capacity shall be undertaken only within the maximum objective. Although various measures that are feasible shall be considered for meeting a mobilization deficit of materials, measures other than stockpiling shall be undertaken only after it is clear that stockpiling is not the best solution. All inventories of Government-owned materials held for long-term storage are a part of the mobilization base. If they are sufficiently large they may eliminate the need for a producing mobilization base segment.

10. *Upgrading to Ready Usability.* Where the general basis for estimating supplies of a material, including allowance for plant vulnerability, does not call for a sufficient quantity in a form suitable for immediate use to meet the initial surge of demand and abnormal conditions of intensive mobilization, a minimum readiness inventory--approximately a six months' requirement--shall be provided near centers of consumption. An interagency review should be undertaken to determine whether a need for a larger or lesser allowance may exist. Materials in Government inventories may be upgraded only when the net cost is less than the cost of new material. Materials will not be upgraded to such a degree, however, as to impair flexibility of use. Payment in kind may be used within the objectives to finance the upgrading, provided that the release of materials to pay for the upgrading will meet disposal criteria.

11. *Beneficiation of Subspecification Materials.* Subspecification-grade material in Government inventory may be beneficiated within the limits of the maximum objectives when this can be accomplished at less net cost than buying new material.

12. *Cancellation of Contracts.* Commitments for deliveries to strategic stockpile and Defense Production Act accounts beyond the maximum objectives shall be cancelled when settlements can be arranged that would be mutually satisfactory to the supplier and the Government, that would not be disruptive to the economy or to projects essential to the national security and that would protect the financial interests of the Government.

13. *Disposal.* Strategic and critical materials shall be retained in Government inventories so long as they are needed to meet maximum stockpile objectives or any foreseeable increases in such objectives.

Disposals of excesses shall be undertaken only if they do not cause serious economic disruption or adversely affect the international interests of the United States.

14. *Declassification of Stockpile Data.* The Office of Defense Mobilization shall declassify stockpile data to the maximum extent feasible when it determines with the concurrence of agencies concerned that the national security would not thereby be jeopardized.

EFFECTS OF THE NEW POLICIES

Stockpile Objectives.—Prior to June 30, 1958, stockpile objectives were established as follows:

(a) Minimum objectives for all materials, representing the potential deficit for a five-year emergency period. Procurement priority levels within these objectives were established generally to cover expeditiously the deficits for the first three years. In establishing the minimum objectives and procurement priority levels it was assumed that some imports would be received from normal sources during an emergency period.

(b) Long-term objectives, for metals and minerals only, representing potential five-year deficits on an assumption that imports would not be available except from nearby sources. The long-term objective included not only the full quantity of the minimum objective but an increment beyond the minimum for most metals and minerals, representing additional protection in the event of disturbance of imports during an emergency.

The newly designated basic and maximum objectives reflecting potential three-year instead of five-year emergency deficits, will parallel the former minimum and long-term objectives respectively in that they are based on similar assumptions as to availability of materials supply in an emergency. Separate procurement priority levels within these objectives have not been established because the urgency of acquisition related to the former procurement priority levels now applies to the new basic objectives. The former long-term objectives were established only for metals and minerals; the new maximum objectives will apply to all materials stockpiled, although it may not be prudent to establish these objectives for some materials at the full calculated deficits for a number of reasons, such as limitations on quantities that can be rotated, and potential changes in technology.

Pending full-scale supply and requirements reviews, basic and maximum stockpile objectives for all materials have been established on a three-year planning basis, utilizing the supply-requirements estimates from the latest reviews. Quantity-wise, basic objectives compare with the former procurement priority levels that represented three-year deficits within a five-year emergency period. More than half the maximum objectives are less than the former five-year minimum objectives.

Although previously stockpile planning had been based on estimates for full mobilization, the emphasis was necessarily on a limited-type war, with some consideration being given to the vulnerability of concentrations of domestic producing and consuming capacity. Future supply-requirements studies will assess the materials situation for both limited and general war, and stockpile planning will be related to the greater of the estimated deficits.

Special-Property Materials.—Organizations that have a knowledge of the supply and demand situations for special-property materials have been

asked to keep the Office of Civil and Defense Mobilization informed of developments in this area. Significant changes in the supply-requirements position of any of these materials will be taken into account in planning for an emergency supply.

Minimum Readiness Inventories.—Assuming rapid mobilization in the event of an emergency, increased emphasis will be placed on the stockpiling of materials in ready-to-use forms to meet the initial surge of demand under conditions of intensive mobilization. Materials already in Government inventory will be processed as appropriate, within budgetary limitations. As of the end of this reporting period, new determinations have been made with respect to the required minimum readiness inventories for tungsten carbide powder, ferrovanadium, molybdc oxide and ferromolybdenum. The need for additional inventories of other materials in higher forms will be assessed as new mobilization supply-requirements reviews are made.

Stockpile Procurement.—The policies regarding stockpile procurement remain substantially as they been for the last several years. The basic objectives, which represent the minimum quantity to be stockpiled assuming some wartime imports from normal sources, will be reached expeditiously. Any increments toward the maximum objectives, comparable to the former long-term objectives in concept, will be procured principally from stocks of materials acquired under other Government programs. The achievement of stockpile objectives as of June 30, 1958, is shown elsewhere in this report.

Relation to Maintenance of the Materials Mobilization Base.—Insofar as basic and maximum objectives have not been achieved, stockpiling may contribute to the maintenance of vital parts of the domestic materials mobilization base. The policy is clear, however, that as Government-owned materials inventories held for long-term storage are increased, the need for maintaining the relevant

materials-producing capacity for defense purposes may be reduced and possibly eliminated.

Disposal of Surplus Strategic and Critical Materials.—Having previously acquired stockpiles of materials on the basis of a five-year war planning period, the shortening of the period to three years and other factors involved in estimating wartime materials requirements may result in substantial excesses in Government-owned materials. The recent policy statement, however, reaffirms the intent of the Executive Branch not to undertake disposal of these surpluses if such disposal would cause serious economic disruption or adversely affect the international interests of the United States.

Cancellation of Deliveries.—An effort will be made to keep the combined strategic stockpile and Defense Production Act inventories, which are subject to transfer to the stockpile, from exceeding the new maximum objectives. The maximum objectives established in June not only are generally lower than the former long-term objectives that were based on a five-year emergency but for many materials are less than the former minimum objectives. So far as practicable, existing commitments for deliveries that would bring the combined stockpile and DPA inventories in excess of the maximum objectives are being cancelled and, whenever possible, termination clauses are to be included in any future long-term contracts that may be necessary.

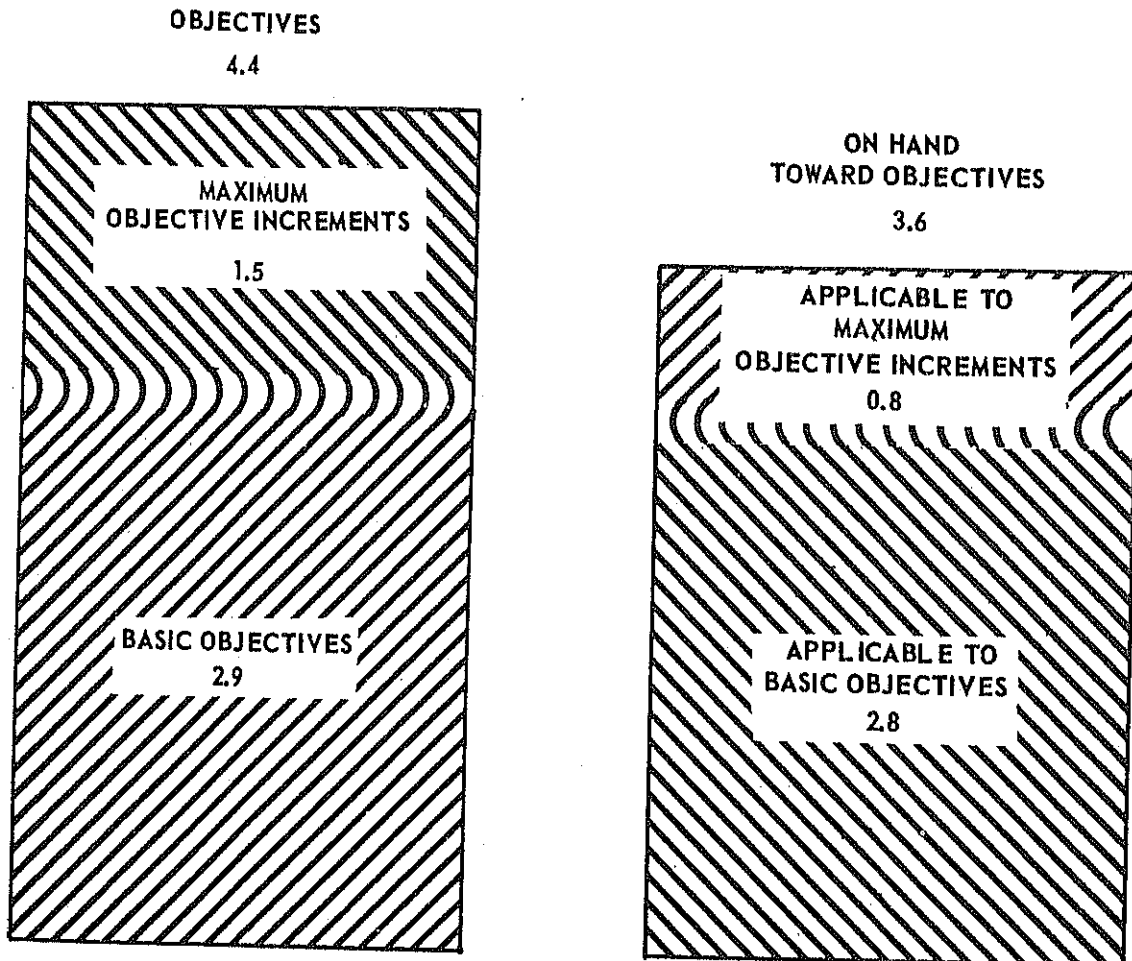
Declassification of Stockpile Data.—The desirability of declassifying stockpile data so as to make them available to anyone who might be interested has been considered repeatedly in interagency discussions since the inception of the stockpile program. Up to this time, with defense considerations outweighing the advantages of public knowledge, declassification necessarily has been limited. A new review is being conducted in the light of present and foreseeable defense implications to see whether additional data may now be declassified without jeopardizing the national security.

CHART 1

STOCKPILE OBJECTIVES AND APPLICABLE INVENTORIES

AS OF JUNE 30, 1958

(In Billions of Dollars, Based on June 30, 1958, Market Prices)



NOTES: The terms "basic objective" and "maximum objective" supersede respectively the terms "minimum objective" and "long-term objective." Maximum objectives apply to all Group I stockpile materials, whereas the former long-term objectives applied to metals and minerals only. In addition to the \$3.6 billion worth of materials shown in this chart as applicable to objectives, there are excess inventories for certain materials, valued at \$1.8 billion, acquired under previously higher objectives. Outstanding commitments are valued at approximately \$96 million.

Achievement of Stockpile Objectives

On June 30, 1958, the strategic stockpile was more than 80 percent complete as measured against the interim basic and maximum objectives in effect on that date. As shown by Table A in this section, inventories for Group I materials equaled or exceeded maximum objectives for 50 materials and basic objectives for 13 additional materials. This improvement in stockpile status is due principally to the reduction in potential quantities needed from a stockpile in time of emergency under the new planning concept.

Total specification-grade inventories of Group I materials in the strategic stockpile, amounting to 26.6 million tons, were valued at \$5.4 billion on the basis of June 30 market prices, a decrease from the \$5.8 billion last shown.

Two factors contributing to the lower dollar valuations of stockpile objectives and inventories applicable to objectives shown in Chart 1, as compared with those last reported, were the reduction in most of the objectives under the new policies and the lower market prices on which the valuations were based. The reduction in most objectives also accounts principally for the increase in excess inventories, now valued at \$1.8 billion as against \$0.1 billion shown in the last report.

Outstanding commitments amounted to approximately \$96 million.

TABLE A

Group I of the List of Strategic and Critical Materials for Stockpiling

The following list, which constitutes Group I of the list of stockpile materials, shows by "x" in the columns those materials for which strategic stockpile inventories as of June 30, 1958, approximately equaled or exceeded objectives established June 30, 1958. Group I materials are acquired by open-market purchase and by transfer of Government-owned surpluses pursuant to Sections 3(a) and 6(a) of Public Law 520, 79th Congress. This list is subject to change as inventories increase or stockpile programs are revised. In some cases the quantities necessary to complete the objectives are already on order or are available for transfer from other Government-owned inventories; in others, procurement may be deferred because of potential significant changes in the supply-requirements position.

Material	Inventory equals or exceeds	
	Basic objective	Maximum objective
1. Abrasives, Crude		
Aluminum Oxide.....	x	x
2. Agar*.....	x	x
3. Aluminum.....	x	x
4. Antimony.....	x	
5. Asbestos, Amosite.....		
6. Asbestos, Chrysotile....	x	x
7. Asbestos, Crocidolite...	x	x
8. Bauxite, Metal Grade, Jamaica Type.....		
9. Bauxite, Metal Grade, Surinam Type.....	x	
10. Bauxite, Refractory Grade.....	x	x
11. Beryl.....	x	x
12. Bismuth.....	x	
13. Cadmium.....	x	x
14. Castor Oil.....	x	x
15. Celestite.....	x	x
16. Chromite, Chemical Grade	x	
17. Chromite, Metallurgical Grade.....	x	x
18. Chromite, Refractory Grade.....	x	x
19. Cobalt.....	x	
20. Coconut Oil.....	x	x
21. Columbite.....	x	x
22. Copper.....	x	
23. Cordage Fibers, Abaca...	x	x
24. Cordage Fibers, Sisal...	x	
25. Diamond Dies, Small....		
26. Diamonds, Industrial, Bort.....	x	
27. Diamonds, Industrial, Stones.....	x	x
28. Feathers and Down, Waterfowl.....	x	x
29. Fluorspar, Acid Grade...	x	x
30. Fluorspar, Metallurgical Grade.....		
31. Graphite, Ceylon-Crystalline and Amorphous..	x	x
32. Graphite, Madagascar-Crystalline Flake and Fines.....	x	x
33. Graphite, Other than Ceylon and Madagascar-Crystalline.....	x	x
34. Hyoscine.....	x	x
35. Iodine.....	x	
36. Jewel Bearings.....		
37. Lead.....	x	x
38. Magnesium.....		
39. Manganese, Battery Grade, Natural Ore.....	x	x

Material	Inventory equals or exceeds	
	Basic objective	Maximum objective
40. Manganese, Battery Grade, Synthetic Dioxide	x	x
41. Manganese, Chemical Grade, Type A Ore.....	x	x
42. Manganese, Chemical Grade, Type B Ore.....		
43. Manganese, Metallurgical Grade.....	x	x
44. Mercury.....	x	x
45. Mica, Muscovite Block, Stained A/B and Better		
46. Mica, Muscovite Film, First and Second Qualities.....		
47. Mica, Muscovite Splittings.....	x	x
48. Mica, Phlogopite Splittings.....	x	x
49. Molybdenum.....	x	x
50. Nickel.....	x	x
51. Opium.....	x	x
52. Palm Oil.....	x	
53. Platinum Group Metals, Iridium.....	x	x
54. Platinum Group Metals, Palladium.....		
55. Platinum Group Metals, Platinum.....	x	x
56. Pyrethrum.....	x	x
57. Quartz Crystals.....	x	x
58. Quinidine.....	x	x
59. Rare Earths.....	x	x
60. Rubber, Crude Natural..	x	x
61. Selenium.....		
62. Shellac.....	x	
63. Silicon Carbide, Crude		
64. Silk, Raw.....	x	x
65. Silk Waste and Noils...	x	x
66. Sperm Oil.....	x	x

Material	Inventory equals or exceeds	
	Basic objective	Maximum objective
67. Talc, Steatite, Block..	x	
68. Tantalite.....	x	x
69. Tin.....	x	x
70. Tungsten.....	x	x
71. Vanadium.....	x	x
72. Vegetable Tannin Extract, Chestnut.....	x	x
73. Vegetable Tannin Extract, Quebracho.....	x	x
74. Vegetable Tannin Extract, Wattle.....	x	
75. Zinc.....	x	x

*Agar was removed from the list of stockpile materials after the end of the reporting period.

Group II of the List of Strategic and Critical Materials for Stockpiling

The following list of materials, constituting Group II of the stockpile list, were acquired principally by transfer of Government-owned surpluses pursuant to Section 6 (a) of Public Law 520, 79th Congress. There are no stockpile objectives for these materials nor are they under procurement:

- | | |
|---|---------------------------|
| 1. Bauxite, Abrasive | 6. Mica, Phlogopite Block |
| 2. Corundum | 7. Rutile |
| 3. Cryolite, Natural | 8. Sapphire and Ruby |
| 4. Diamond Dies, Other Than Small | 9. Talc, Steatite, Ground |
| 5. Mica, Muscovite Block, Stained B and Lower | 10. Titanium Sponge |
| | 11. Wool |

Activities for the Period January-June 1958

PROCUREMENT

Stockpile purchases on the open market were limited to quantities toward the former procurement priority levels, comparable to the new interim basic objectives, except for domestic purchases of lead, zinc and synthetic manganese dioxide as a means of aiding in the maintenance of the mobilization bases for these materials. Principal materials purchased, other than lead

and zinc, were amosite asbestos, metallurgical fluorspar, and muscovite block and film mica.

Only a small quantity of materials were purchased by the strategic stockpile from the Defense Production Act inventories, but substantial quantities were taken from Commodity Credit Corporation stocks.

Deliveries and commitments for the strategic stockpile are shown in Table B below.

TABLE B

Deliveries and Commitments for the Strategic Stockpile, January-June 1958
Valued at June 30, 1958, Market Prices
(Millions of dollars)

Source of stockpile materials	Toward basic objectives		Additional toward maximum objective increments		Total	
	Commitments	Deliveries	Commitments	Deliveries	Commitments	Deliveries
Open market.....	3.63	6.98	2.82	7.19	6.45	14.17
DPA inventories.....	0	0	.01	.01	.01	.01
CCC inventories.....	6.75	2.81	6.70	4.21	13.45	7.02
Foreign aid programs ¹	0	0	0	2.79	0	2.79
Surplus declarations ¹	0	.59	0	0	0	.59
Total.....	10.38	10.38	9.53	14.20	19.91	24.58

¹These materials are supplied without cost to the stockpile.
Source of data: General Services Administration.

SPECIFICATIONS AND SPECIAL INSTRUCTIONS

During this period, the Office of Defense Mobilization revised and issued 21 purchase specifications and one container specification. (See Appendix B.) In addition, special instructions were issued to the delegate agency, General Services Administration, giving guidance on the stockpiling of 13 materials.

STOCKPILE STORAGE

Approximately 300,000 tons of strategic and critical materials were received and placed in strategic stockpile storage during this six months' period. The number of facilities by type and the changes in composition since the last report are as follows:

Type of facility	June 30, 1958	Change in last 6 months
Military depots.....	65	+1
GSA depots.....	16	0
Other Government-owned sites.....	6	0
Industrial plantsites....	36	-1
Leased commercial sites..	11	+1
Commercial warehouses....	81	-2
Commercial tank facilities.....	1	0
Port storage sites.....	0	-1
Total.....	216	-2

Strategic and critical materials for the DPA, CCC and Interior (P.L. 733) accounts are also stored in the facilities shown above.

Inspections of materials delivered to the strategic stockpile during this period totaled 12,632. In addition, there were 2,697 inspections for qualitative maintenance of materials already in storage.

Revised storage instructions for seven materials were published and for ten additional materials were ready for publication. The revised instructions require storage so that future inventories of most materials can be accomplished without extensive restacking.

Continued emphasis is being placed on care and preservation of materials, with particular consideration being given to the condition of containers, warehouse structures and open area facilities. During the period January-June 1958, 66 preservation and maintenance projects were authorized and 47 such projects previously authorized were completed.

Generally these projects involve container rehabilitation; repackaging from substandard containers, the life of which has been completely utilized, to containers capable of withstanding long-term storage; major and minor repairs to structures and grounds at various Government-owned storage facilities; special care of certain perish-

able materials to prevent rodent and insect infestation; added fire protection facilities; and grouting of ore piles to prevent contamination and wind loss.

The physical inventory of all stocks of strategic and critical materials, started by the General Services Administration early in 1956, was approximately on schedule. Closed-storage inventories at two GSA-operated depots and at six commercial warehouses were completed during the period, for a total of eight and 65 respectively since the beginning of the project. The remaining closed-storage inventories for these two types of facilities are expected to be completed within the next six months. Inventories of metals in open storage at GSA depots are scheduled for completion by mid-1960; one was completed during this reporting period and five others were in progress. In the meantime, work will be getting under way on inventories at the 65 military depots in accordance with an agreement between the General Services Administration and the Department of Defense which was formalized during the last six months. It is expected that two years will be required for the work at the military depots.

The Job Ahead

Interim stockpile objectives have been established on a three-year planning basis in compliance with that phase of the new policies issued at the end of June. For expediency, these objectives were derived from data at hand some of which were developed several years ago.

Both the objectives and the basic data are to be reviewed in the light of the latest strategic and stockpiling concepts. Preliminary to these reviews, new guidance will be issued for the development of basic supply and requirements data and stockpile objectives. This work is under way. All agencies having an interest in emergency materials planning will be called upon for advice, through the medium of the Interdepartmental Materials Advisory Committee and in staff consultations.

The reduction in the assumed period of mobilization and the contingency of general war with attack upon this country as well as limited war involving the United States, introduce new factors into stockpile planning and operations. Some time will be required to integrate these new factors into all phases of stockpile planning, from the development of basic data to the final stockpiling determinations. Consequently, new reviews will be limited for the next several months to those materials on which some action can be taken with reasonable assurance that emergency

requirements represent a feasible planning level.

In the meantime procurement will take place principally against those basic and maximum objectives not yet achieved and for which there are no foreseeable reductions because of significant changes in the supply-requirements outlook.

There is little doubt that the combined stockpile and Defense Production Act inventories of some materials will exceed the needs from Government stocks in time of an emergency as now conceived. These surpluses in Government-owned inventories earmarked for defense purposes raise the problem of disposal. However, in accordance with the provisions of the Stock Piling Act and with stockpile policy these excesses will not be disposed of if such disposal would cause serious economic disruption or affect adversely the international interests of the United States. As in other stockpiling matters, interagency advice will be called upon in any consideration of major disposals.

The custodial agency, General Services Administration, with the guidance of the Office of Civil and Defense Mobilization, will continue the qualitative maintenance and management of the vast materials inventories.

An interagency review of stockpile data for the purpose of declassifying to the maximum extent consistent with national security, is under way.

Notes on Strategic and Critical Materials

ALUMINUM

Under the Defense Production Act aluminum expansion program, companies continued to put primary aluminum to the Government as the terms of their contracts permitted. From January through June, 262,354 short tons of primary aluminum was accepted. Deliveries also continued under the active ECA/ICA development contracts.

Bureau of Mines research resulted in the granting of a patent on a method for the preparation of high-grade aluminum metal from aluminum-silicon alloys such as can be prepared from clays and similar materials.

BAUXITE

Large deposits of bauxite have recently been discovered in Hawaii, but preliminary examination has indicated that technologic and economic problems must be solved before these deposits will represent an extensive commercial reserve.

BRISTLES, HOG

Approximately 700,000 pounds of Chinese hog bristles from the strategic stockpile were disposed of during this six months' period. Disposal of an additional 500,000 pounds by public auction or sealed bid was planned for August 1958. As of June 30, approximately 1,400,000 pounds of bristles had been sold, with a recovery to the Government of over \$8,000,000 since the removal of this material in August 1955 from the List of Strategic and Critical Materials for Stockpiling.

CASTOR OIL

Continuing Government research has resulted in four castor bean hybrids with average yields of 3,600 to 3,800 pounds an acre compared with 3,300 pounds for the best commercial hybrids.

CHROMITE, METALLURGICAL

The domestic purchase program for this material which began in August 1951 was closed during the period since the program quantity limitation of 200,000 long dry tons was reached.

COBALT

Negotiations are under way for converting the Burma speiss now in the stockpile inventory to cobalt metal so that it will be more readily usable in time of emergency.

COLUMBITE-TANTALITE

A new plant at Muskogee, Oklahoma, which increased the producer's tantalum capacity by 50 percent and its columbium capacity by 150 percent, reached capacity production of tantalum powder.

A new additive alloy of tantalum, columbium and aluminum for use in titanium-base alloy has been placed on the market. A new high-temperature alloy consisting of 80 percent columbium, 10 percent titanium and 10 percent molybdenum, has been announced. Construction of a pilot plant to produce tantalum and columbium was begun at Ashtabula, Ohio.

Imports of columbite were considerably lower, but tantalite imports were almost the same as in the first six months of 1957.

COPPER

Because of the low market price of copper, substantial quantities were delivered to the Government under floor price contracts negotiated under the provisions of the Defense Production Act. Deliveries were also received from a project in Rhodesia under an ECA/ICA development contract.

CORDAGE FIBERS

Approximately 13,000,000 pounds of abaca and 29,000,000 pounds of sisal were rotated during this period. The problem of shelf-life expectancy of cordage fibers and the related problem of the quantity of stockpiled fiber that can be absorbed by industry on rotation continue to be the major limiting factors in stockpiling to offset supply deficits in an emergency. Tests to determine the storage life of these fibers have confirmed that abaca may be stored for five years and sisal for seven years without appreciable deterioration. The continuing expansion of capacity for producing man-made fibers suitable for rope uses promises to cut down the supply deficit for abaca in an emergency.

Abaca production at the plantation in Honduras, under the Abaca Act of 1950, was terminated in March. The decortication plant has been placed in stand-by status, and negotiations are being conducted for the sale of surplus equipment. Production of abaca in Guatemala and Costa Rica was continued during the period of this report, but the entire program is to be discontinued as no longer necessary for defense purposes under the new planning concepts.

Encouraging results have been obtained on rapid-growing hybrids of sansevieria and disease-resistant, high-yielding strains of kenaf. This work as well as propagation studies on phormium is being continued by the Department of Agriculture.

DIAMOND DIES, SMALL

Quotations obtained from General Services Administration's request for bids on an initial small purchase of strategic size diamond dies revealed potential sources of supply and other market information. Indications were that unmounted dies meeting stockpile specifications could be readily obtained from foreign sources. However, as development of domestic production and productive capacity is desirable from the standpoint of a mobilization base in this material, procurement action was suspended pending review of the specifications in the light of domestic die maker's representations.

JEWEL BEARINGS

Stockpile purchases of jewel bearings during this period were directed solely to the domestic facility at Rolla, North Dakota. In a continuing effort to sustain domestic production, the Office of Defense Mobilization requested the Department of Defense to arrange with its contractors the acquisition of jewel bearings for current defense needs, insofar as practicable, from the Rolla plant. In turn, the Rolla plant was asked to give priorities in filling orders as follows: defense contractors, normal industrial demand, stockpile.

LEAD AND ZINC

In May 1958 GSA entered into its final stockpile contract for lead from domestic producers, for delivery in July and August, and further purchases are not contemplated at this time. A small quantity of lead was delivered under an ECA/ICA development contract. Purchases of zinc from domestic producers for the stockpile were completed.

MANGANESE

The Butte-Phillipsburg low-grade manganese purchase program, which began in 1951 under the Defense Production Act, ended in May because the program quantity limitation of 6,000,000 long ton units of recoverable manganese was reached. Purchases of specification-grade metallurgical manganese are continuing under the small producers program.

There is one active contract for research on recovery of manganese from rhodonite.

MICA

Since the last report, additional contracts have been awarded under the Defense Production Act foreign mica expansion program, and purchases have continued under the domestic mica purchase program.

The synthetic mica research program is being continued in the hope that it will lead to the development of a satisfactory substitute for natural block and film mica in strategic applications. Two new research contracts on synthetic mica were made during the period, bringing to eight the total number of active contracts.

General Services Administration entered into two contracts relating to natural mica: one for the design and manufacture, by September or October 1958, of a machine to measure waviness, and another for two years of research to determine the properties that are essential in electron tube use. It is expected that the results of both these contracts will be helpful in the inspection of mica, which is now a visual process; in addition, the latter may aid in the work on development of synthetic mica and make possible the use of lower grades of natural mica.

NICKEL

Free-world production of nickel was in excess of demand in the first half of 1958. United States consumption was substantially lower than that for the same period in 1957.

Because of the reduction in demand, companies that had previously diverted production to industry resumed shipments to the Government under their Defense Production Act contracts.

Defense Production Act expansion programs in Canada and Cuba to increase free-world productive capacity 125,000,000 pounds by 1960 were on schedule.

RARE-EARTH METALS

A recent development in technology utilizes the special ferrimagnetic properties of certain compounds of the rare-earth metals. These are being introduced as ferrites in the electronics field where their ability to transmit microwave energy is utilized in radar, television and other similar applications.

RUBBER

During the six months' period, 10,189 long tons of rubber were rotated as compared to the 23,324 tons rotated during the previous reporting period. The decrease in rubber rotation resulted primarily from the general decline in consumption and the substantial completion of upgrading the stockpile to the grades now being more commonly used in industry.

TANNING MATERIALS

Field work on canaigre was continued in Arizona. Preliminary results indicate that biennial harvesting is more economical than annual harvesting and that crown, or vegetative, planting yields lower cost canaigre than seed planting.

TITANIUM

Because of the reduction in demand for titanium, a contractor, exercising its contractual right, terminated a Defense Production Act contract during this reporting period and transferred the plant and equipment to the Government.

With the completion in 1958 of deliveries under another Defense Production Act contract, there will be no further deliveries of titanium to the Government.

The Bureau of Mines, under a contract with the General Services Administration, completed studies on evaluation of domestic ilmenites for making titanium metal.

TUNGSTEN

The closing of two domestic tungsten mines in June 1958 left the Pine Creek mine in Inyo County, California, the only tungsten mine still in operation in the United States. Government-owned inventories are ample, however, to meet defense requirements.

APPENDIX A

FINANCIAL SUMMARY OF STOCKPILE OPERATIONS AS OF JUNE 30, 1958

TABLE 1 STATUS OF OBLIGATIONAL OPERATIONS

AS OF JUNE 30, 1958

AUTHORITY	APPROPRIATED FUNDS ^{a/}	AUTHORIZATIONS FOR		TOTAL OBLIGATIONAL AUTHORITY (CUMULATIVE) ^{d/}
		MAKING ADVANCE CONTRACTS ^{b/}	LIQUIDATING OUTSTANDING ADVANCE CONTRACTS ^{c/}	
Under PL 117 - 76th Congress	\$ 10,000,000	\$	\$	\$ 10,000,000
PL 361 - 76th Congress, August 9, 1939	12,500,000			22,500,000
PL 442 - 76th Congress, March 25, 1940	47,500,000			70,000,000 ^{e/}
PL 667 - 76th Congress, June 26, 1940				
Under PL 520 - 79th Congress	100,000,000			100,000,000
PL 663 - 79th Congress, August 8, 1946	100,000,000			275,000,000
PL 271 - 80th Congress, July 30, 1947	225,000,000	75,000,000		800,000,000
PL 785 - 80th Congress, June 25, 1948	75,000,000	300,000,000		800,000,000
PL 785 - 80th Congress, June 25, 1948	40,000,000		75,000,000	1,110,000,000
PL 119 - 81st Congress, June 23, 1949	275,000,000	270,000,000		1,635,000,000
PL 150 - 81st Congress, June 30, 1949	250,000,000	250,000,000		1,635,000,000
PL 150 - 81st Congress, June 30, 1949				1,535,000,000
PL 434 - 81st Congress, October 29, 1949	365,000,000			1,660,000,000
PL 759 - 81st Congress, September 6, 1950	240,000,000			2,025,000,000
PL 759 - 81st Congress, September 6, 1950	573,232,449 ^{g/}	125,000,000		2,598,232,449
PL 843 - 81st Congress, September 27, 1950	1,834,911,000			4,433,143,449
PL 911 - 81st Congress, January 6, 1951	590,216,500			5,023,359,949
PL 253 - 82nd Congress, November 1, 1951	200,000,000			5,023,359,949
PL 253 - 82nd Congress, November 1, 1951	203,979,000			5,157,338,949
PL 455 - 82nd Congress, July 25, 1952			200,000,000	5,127,338,949
PL 176 - 83rd Congress, July 31, 1953			70,000,000	5,099,738,949
PL 428 - 83rd Congress, June 24, 1954			30,000,000	5,479,690,949
PL 663 - 83rd Congress, August 26, 1954	379,932,000 ^{h/}		27,600,000	5,801,411,949
PL 112 - 84th Congress, June 30, 1955	321,721,000 ^{i/}			5,801,411,949
PL 112 - 84th Congress, June 30, 1955	27,400,000			5,801,411,949
Total PL 520	5,801,411,949 ^{i/}	1,020,000,000		5,801,411,949
TOTAL PL 117 AND PL 520	5,871,411,949 ^{i/}	1,020,000,000	1,020,000,000	5,871,411,949

- a/ Congressional appropriations of funds for stockpiling purposes.
b/ Congressional appropriations of contracting authority for stockpiling purposes in advance of appropriation of funds.
c/ Congressional authorization to liquidate outstanding obligations incurred under previously granted advance contract authority.
d/ Cumulative total of appropriated funds and advance contract authorization, less authorization to liquidate outstanding advance contracts.
e/ Excludes \$8,845,792 received from sale of stockpile materials for wartime consumption. Receipts were returned to Treasury, February 1948.
f/ Cancellation of previously authorized authority to make contracts.
g/ Excludes \$25,404,921 transferred to operating expenses for rehabilitation of Government-owned material producing plants.
h/ Excludes \$48,000 transferred to Transportation and Public Utilities Service, GSA.
i/ Excludes \$430,000 transferred to Transportation and Public Utilities Service, GSA and \$199,349,000 transferred to General Fund Receipts on June 27, 1956 - PL 623 - 84th Congress.
j/ Excludes receipts from rotational sales.

Source: General Services Administration

TABLE 2 TOTAL OBLIGATIONS AND EXPENDITURES OF STOCKPILING FUNDS

CUMULATIVE AND BY FISCAL PERIOD, THROUGH JUNE 30, 1958

Fiscal Period	Obligations Incurred <u>A/</u>		Expenditures <u>B/</u>	
	Net Change By Fiscal Period	Cumulative As of End of Period	By Fiscal Period	Cumulative As of End of Period
Prior to Fiscal Year 1948	\$ 123,871,685	\$ 123,871,685	\$ 66,330,731	\$ 66,330,731
Fiscal Year 1948	252,901,411	376,773,096	82,907,575	149,238,306
Fiscal Year 1949	459,766,881	836,539,977	304,486,177	453,724,483
Fiscal Year 1950	680,427,821	1,516,967,798	440,834,970	894,559,453
Fiscal Year 1951	2,075,317,099	3,592,284,897	655,537,199	1,550,096,652
Fiscal Year 1952	948,117,547	4,540,402,444	844,683,459	2,394,780,111
Fiscal Year 1953	252,375,163	4,792,777,607	906,158,850	3,300,938,961
Fiscal Year 1954	116,586,681	4,909,364,288	644,760,321	3,945,699,282
Fiscal Year 1955	321,799,833	5,231,164,121	801,310,094	4,747,009,376
Fiscal Year 1956 <u>C/</u>	251,692,667	5,482,856,788	382,011,786 <u>C/</u>	5,129,021,162 <u>C/</u>
Fiscal Year 1957	190,000,109	5,672,856,897	354,576,558	5,483,597,720
Fiscal Year 1958	54,473,250	5,727,330,147	173,753,997	5,657,351,717

A/ Figures are the sum of obligations incurred under PL 117, 76th Congress and PL 520, 79th Congress and PL 117, 76th Congress.

B/ Final obligations under PL 117, 76th Congress were incurred in Fiscal Year 1949.

C/ Figures are the sum of expenditures under PL 520, 79th Congress and PL 117, 76th Congress.

Final expenditures under PL 117, 76th Congress were made in Fiscal Year 1951.

1956 and subsequent fiscal periods and cumulative expenditures are reported on an accrual basis.

Source: General Services Administration

TABLE 3 EXPENDITURES OF STOCKPILING FUNDS, BY TYPE

CUMULATIVE AND FOR FISCAL YEAR 1958

TYPE OF EXPENDITURE	CUMULATIVE THROUGH ^{a/} DECEMBER 31, 1957	SIX MONTHS ENDED JUNE 30, 1958	CUMULATIVE THROUGH ^{a/} JUNE 30, 1958
Expenditures			
Gross Total	\$ 6,058,203,858	\$ 101,462,828	\$ 6,159,666,686
Less: Adjustments for Receipts from Rotation Sales and Reimbursements	487,567,768	14,747,200	502,314,968
Net Total	5,570,636,090	86,715,628	5,657,351,718
Material Acquisition Costs, Total	5,305,018,664	69,160,344	5,374,179,008
Storage Costs, Total	230,980,188	16,387,370	247,367,558
Administration Costs	43,928,014	(4,868)	43,923,146
Operating Costs	141,249,444	8,036,362	149,285,806
Interest	45,802,730	8,355,876	54,158,606
Ad	34,637,238	1,167,914	35,805,152

^{a/} Cum
Exp
acq
FY

the total of expenditures under PL 117, 76th Congress and PL 520, 79th Congress.
PL 7, 76th Congress totaled \$70,000,000, of which \$55,625,237 was for materials
\$4,374,763 was for other costs. Final expenditures under PL 117 were made in

Source: General Services Administration

Appendix B

CHANGES IN STOCKPILE SPECIFICATIONS JANUARY-JUNE 1958

<i>Number</i>	<i>Item</i>	<i>New or revised</i>	<i>Date issued</i>
Purchase Specifications			
P-2a-R1	Antimony Metal	Revised	March 7
P-5a-R1	Bauxite--Metal Grade	Revised	March 17
P-6-R2	Beryl	Revised	March 14
P-94-R1	Beryllium-Copper Master Alloy	Revised	January 14
P-11a-R2	Ferrochromium--Low-Carbon	Revised	April 11
P-11b-R1	Ferrochromium--High-Carbon	Revised	March 3
P-11c-R3	Ferrochromium-Silicon	Revised	March 3
P-16-R4	Copper	Revised	March 5
P-21-R2	Graphite, Ceylon--Amorphous Lump	Revised	March 17
P-22a-R1	Graphite, Madagascar--Crystalline Flake and Fines	Revised	March 17
P-28-R1	Lead	Revised	May 27
P-30-R1	Manganese--Metallurgical (Ore, Nodules, and Sinter)	Revised	March 14
P-30a-R	Ferromanganese	Revised	March 4
P-31-R1	Mercury	Revised	May 27
P-32a-R2	Mica--Muscovite Block, Stained A/B and Better	Revised	April 10
P-32b-R1	Mica--Muscovite, Film	Revised	April 10
P-75-R	Selenium	Revised	June 20
P-88-R	Ferrotantalum-Columbium	Revised	February 19
P-55-R1	Tin	Revised	March 7
P-57-R4	Tungsten Ores and Concentrates	Revised	February 21
P-59-R1	Zinc	Revised	March 6
Container Specifications			
C-1-R	Drums: Steel, Hot-Dip, Galvanized	Revised	February 14

Appendix C

REPORTS ISSUED BY THE DEPARTMENT OF THE INTERIOR JANUARY-JUNE 1958

BUREAU OF MINES

Reports of Investigations

- 5369 Manganese Deposits of Southwestern Oregon.
- 5373 Tin Bearing Placer Deposits Near Tofty, Hot Springs District, Central Alaska.
- 5375 A Comparative Study of Statistical Analysis and Other Methods of Computing Ore Reserves, Utilizing Analytical Data from Maggie Canyon Manganese Deposit, Artillery Mountains Region, Mohave County, Arizona.
- 5377 Laboratory Concentration of Chromite Ores, Red Mountain District, Kenai Peninsula, Alaska.
- 5378 X-Ray Emission Spectrographic Analysis of Bastnaesite Rare Earths.
- 5381 Removing and Recovering Fluorine from Western Phosphate Rock and Utilizing the Defluorinated Rock.
- 5388 Upgrading Cobalt-Nickel Stockpiles by the Roast-Flotation Process.
- 5392 Investigation of Manganese Areas, Hammond Plantation and Hodgdon Townships, Southern District, Aroostook County, Maine.
- 5394 Electrolytic Separation Studies of Nickel and Cobalt from Nicaro-Plant Products.
- 5395 Ilmenite and Other Black-Sand Minerals in the Gold Fork Placer Deposit, Valley County, Idaho.
- 5396 Ilmenite and Other Black-Sand Minerals in the Deadwood Placer Deposit, Valley County, Idaho.
- 5398 Sodium Reduction of Titanic Chloride.

Information Circulars

- 7822 Discovery and Development of the Pima Copper Deposit, Pima Mining Co., Pima County, Arizona.
- 7823 Mining Methods and Costs at the Rialto Mine, Nellie B. Division, American Zinc, Lead, and Smelting Co., Ottawa County, Oklahoma. (Zinc, lead)
- 7828 Mining and Water-Control Methods at the Chief Lead-Zinc Mine, Chief Consolidated Mining Co., Juab County, Utah.

U. S. GEOLOGICAL SURVEY

Professional Papers

- 287 Geology and Magnetite Deposits of Dover District, Morris County, New Jersey. (Iron, copper)
- 292 Geology of the Southern Elkhorn Mountains, Jefferson and Broadwater Counties, Montana. (Silver, lead, zinc)

Bulletins

- 1019-K Bibliography of Nickel.
- 1019-L Selected Annotated Bibliography of Asbestos Resources in the United States and Canada.
- 1021-N Geology of the Clarkdale Quadrangle, Arizona. (Copper)
- 1030-L Copper and Uranium Deposits of the Coyote District, Mora County, New Mexico.
- 1030-N Geology and Uranium Deposits of the Caribou Area, Boulder County, Colorado. (Uranium, lead)
- 1036-N Fractional Precipitation of Rare Earths with Phosphoric Acid.
- 1042-L Monazite in Part of the Southern Atlantic Coastal Plain. (Rare Earths, thorium)

APPENDIX C—Con.

U. S. GEOLOGICAL SURVEY—Con.

Published Mineral Investigation Maps

- MF-120 Uranium Deposits and Principal Ore-bearing Formations of the Central Cordilleran Foreland Region. (Uranium, vanadium, selenium)
MF-137 Leadpoint Quadrangle, Stevens County, Washington. (Lead, zinc)
MF-140 Preliminary Geologic Map of the Mount Peale 1NW Quadrangle, San Juan County, Utah. (Uranium, vanadium)
MF-169 Exploration for Uranium-vanadium Deposits by the U. S. Geological Survey in the Club Mesa Area, Uravan District, Montrose County, Colorado.

Reports Placed on Open File for Public Inspection

Geology and Ore Deposits of the East Shasta Copper-Zinc District, Shasta County, California.
Pegmatite Geology of the Shelby District, North Carolina. (Mica)
Structure and Ore Deposits of the Darwin Quadrangle, Inyo County, California. (Lead-zinc)
Uranium and Other Metals in Crude Oils. (Vanadium, nickel)

